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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,850	01/03/2006	Philippe Campo	Serie 6056	7704
40582	7590	04/16/2007	EXAMINER	
AIR LIQUIDE			BARRY, CHESTER T	
2700 POST OAK BOULEVARD, SUITE 1800			ART UNIT	
HOUSTON, TX 77056			PAPER NUMBER	
			1724	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		04/16/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

**Application No.**

10/530,850

**Applicant(s)**

CAMPO ET AL.

**Examiner**

Chester T. Barry

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 6-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Claims 6 – 7 are rejected under 35 U.S.C. 102(e) as being anticipated by 6780319. '319 describes a biological treatment tank for processing solids-bearing wastewater. In the aeration tank of Fig 2, the solids concentration is 4 g / L. The patent adds ozone in the amount of 3 – 100 g / kg SM solids. This corresponds to 12 – 400 mg ozone / L. Production of an emulsion upon injection of ozone gas into the wastewater is inherent. Per claim 7, 12 mg/L is within the range of 2.5 – 300mg/L.

Claims 8 – 13 are rejected under 35 U.S.C. 103(a) as being obvious over 6780319. As for the injection means by which the ozone is added to the wastewater, it would have been obvious to have selected any known mechanism for injecting a finely-divided gas into a liquid, e.g., hollow tube and propeller, venture, turbine, or a self-suction turbine and propeller, because each are well known in the wastewater treating arts.

In response to applicant's argument that the reference Thieblin does not disclose injection of an ozone-containing gas into an "aeration tank containing aqueous effluent," the examiner notes that following points: The section 6 (Fig 1) is not only a portion of the aeration tank 2, but the section 6 is itself aerated by the air portion of the ozonated air gas mixture used to treat the water/sludge slurry flowing through section 6. As for the argument that the sludge flowing through the section 6 is not an aqueous effluent, it is noted that the material flowing through section 6 is mostly liquid aqueous effluent. Moreover, even if the material were settled sludge, settled sludge is nevertheless a mixture of aqueous effluent and solid material. Unless the reference disclosed bone dry

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solids, the sludge would comprise sufficient water to qualify the stream as "aqueous effluent."

As for applicant's argument that the limitation of claim 7 is not clearly shown by the examiner's discussion of the reference, it is noted that it is well known that ozone-enriched air is feasibly limited to about 2 – 3% ozone, as shown for example by USP 5411633.<sup>1</sup> Insofar as it is also well known that the density of air is about 1.2 kg/M3, or about 1200 mg/l, it is clear that the concentration of ozone in Thieblin's ozone-enriched air is only about 24 – 36 mg/l.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

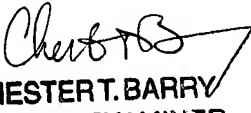
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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<sup>1</sup> Exemplary apparatus for ozone bleaching paper pulp having medium consistency (about 6-15%, preferably about 8-12%), is schematically illustrated generally by reference numeral 10 in FIG. 1A. One of the major components of the apparatus 10 is a fluidizing mixer 12 having a pulp inlet 13, a pulp/ozone outlet 14, and an ozone inlet 15 provided with ozone containing gas from source 16. The ozone is provided in a carrier gas. While the carrier gas can be air or nitrogen, oxygen is preferred. The highest concentration of ozone presently feasible to produce in an air fed ozone generator is only about 2-3%. When oxygen is the feed material to the ozone generator and carrier gas, it is presently technologically practical to have a maximum content of ozone above 11-12%, although typically 3-10% by weight is the norm. Therefore, in the preferred embodiment, the ozone containing gas from source 16 comprises about 88-97% oxygen and about 3-10% ozone (or higher if techniques are developed to provide a higher percentage of ozone in oxygen on a practical basis). There will be minor amounts of other gases, such as the gases that make up air, which should have no significant adverse effect on the delignifying action produced by the ozone. (emphasis added)

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

  
CHESTERT. BARRY  
PRIMARY EXAMINER

571-272-1152

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